WHAT IS CLAIMED IS:

1. A method for deuteration of a compound having an aromatic ring, which comprises reacting the compound having the aromatic ring with heavy hydrogen source in the presence of an activated catalyst selected from a platinum catalyst, a rhodium catalyst, a ruthenium catalyst, a nickel catalyst and a cobalt catalyst.

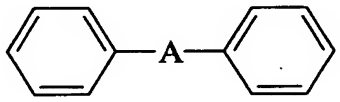
2. The method for deuteration according to claim 1, wherein the catalyst is an activated platinum catalyst.

3. The method for deuteration according to claim 2, wherein the platinum catalyst is one comprising platinum of 0 to 2 valences.

4. The method for deuteration according to claim 2, wherein the platinum catalyst is platinum carbon.

5. The method for deuteration according to claim 1, wherein the aromatic ring is one selected from a group consisting of benzene, naphthalene, anthracene, phenanthrene, 9,10-dihydroanthracene, naphthacene, pentaphene, pentacene, hexaphene, hexacene, heptaphene, heptacene, trinaphthylene, 1,4-dihydronaphthalene, pyrene, triphenylene, biphenylene, indene, indan, indacene, phenalene, fluorene, acenaphthene, acenaphthylene, fluoranthene, tetraphenylene, coranthrene, acephenanthrylene, aceanthrylene, cyclopentaphenanthrene, chrysene, picene, pleiadene, rubicene, pyranthrene, coronene, perylene, rubrene, dibenzophenanthrene, 1,2-dibenzo-1,3-cycloheptadiene, pyranthrene and ovalene.

6. A compound represented by the general formula [2]:



[2]

(wherein A is a sulfur atom, a sulfinyl group or a sulfonyl group and at least one of hydrogen atoms belonging to an aromatic ring is a heavy hydrogen atom).